

**CODE AND RULE CHANGES PERTINENT TO NEW BUS INSPECTIONS  
AND  
THE YEAR RULE WAS IMPLEMENTED**

**AISLES:**

- 1972 No bus shall have an aisle less than 12" width whether it be between seats or leading to and emergency exit.
- 2002 No emergency egress aisle shall be allowed at any side emergency door that has been legally secured and made inoperable.

**AIR CLEANERS:**

- 1997 The intake air system for diesel engines shall have an air cleaner restriction indicator properly installed by the chassis manufacturer to meet engine specifications.
- 2002 All diesel engine air filters shall include a latch-type restriction indicator that retains the maximum restriction developed during operation of the engine. The indicator should include a reset control so the indicator can be returned to zero when desired. Type A buses are not exempt from this requirement.

**BACK-UP ALARMS:**

- 1997 An automatic audible alarm shall be installed behind the rear axle and shall comply with the published Backup Alarm Standards (SAE 994), providing a minimum of 112 dBA.

**BRAKES:**

- 1972 Audible or Visible low air or vacuum systems are required on all buses.
- 1982 Audible and Visible low air or vacuum systems are required on all buses. This requirement was adopted at the 1980 standards conference and is still in effect on all buses built today.
- 1997 All braking systems shall include an emergency brake that is a part of the service brake system and controlled by the service brake control.
- 1997 All anti-lock braking systems shall include control of all axles.
- 1998 Anti-lock brakes are required on all air brake equipped buses manufactured after April 1.

- 1999 Anti-lock brakes are required on all buses air or hydraulic manufactured after April 1.
- 2002 All brake systems shall be designed to permit visual inspection of brake lining wear without removal of any chassis component(s).
- 2002 Both hydraulic and air brake systems may be equipped with a brake pressure application gauge.

## **CLUTCH**

- 1997 A starter interlock shall be installed to prevent actuation of the starter if the clutch is not depressed.

## **COLOR**

- 1997 Chassis, including wheels and front bumper, SHALL be BLACK. Body cowl, hood, and fenders shall be in national school bus yellow. The flat top surface of the hood may be non-reflective black or national school bus yellow.
- 1997 Demountable rims, if used, may be, silver, gray or black as received from the wheel manufacturer.
- 2002 Rims may be gray or black as received from the manufacturer.
- 2002 The entire rubrail and body exterior paint trim shall be black.
- 2002 Optionally, the roof of the bus may be painted white except that the front and rear roof caps shall remain NSBY, according to National School Transportation Specifications & Procedures Placement of Reflective Markings.

## **COMMUNICATIONS:**

- 2002 All School buses used to transport students shall be equipped with two-way voice communication other than CB radios.

## **DOORS:**

- 1982 Head bumper pads are required at the top edge of all service door openings.
- 1992 All doors shall be equipped with padding at the top edge of each door opening. Pad shall be at least 3 inches wide and 1 inch thick and extend the full width of the door opening.

- 1992 Lower, as well as upper door panels, shall be of approved safety glass. Bottom of each lower glass panel shall not be more than 10 inches from the top surface of bottom step. Top of each upper glass panel shall not be more than 6 inches from the top of the door. Type A vehicles shall have an upper panel (window) of safety glass with an area of at least 350 square inches.
- 1997 Manual door controls shall not require more than 25 pounds of force to operate at any point throughout the range of operation.
- 1997 All exposed metal door hinges shall be designed to allow for lubrication.
- 2002 On power-operated service doors, the emergency release valve, switch or device to release the service door must be placed above or to the immediate left or right of the service door and clearly labeled.

### **EMERGENCY EXITS:**

- 1972 All emergency doors shall be equipped with an alarm system with the buzzer mounted in the driver compartment.
- 1982 The upper portion of all emergency exit doors shall be equipped with approved safety glass measuring a minimum of 400 square inches.
- 1987 Approved safety glass measuring 350 square inches is required in the bottom section of all emergency doors on type B, C, and D buses.
- 1987 All emergency doors will be equipped with an alarm system with buzzer mounted in both the driver compartment and at the emergency door.
- 1992 A device shall be used that holds the door open to prevent the emergency door from closing during emergencies and school bus evacuation drills.
- 1992 There shall be no obstruction higher than ¼ inch across the bottom of any emergency door opening.
- 1992 There shall be no steps leading to an emergency exit door.
- 1992 Required number of emergency exits per bus (in addition to rear emergency doors):  
0 to 22 Passenger = 1 emergency exits per side and 2 roof hatches.  
23 to 65 Passenger = 1 emergency exits per side and 2 roof hatches.  
66 and above = 2 emergency exits per side and 2 roof hatches.
- 1995 Required number of emergency exits per bus (in addition to rear emergency exits):  
0 to 42 Passenger = 1 emergency exit per side and 1 roof hatch.

43 to 78 Passenger = 2 emergency exits per side and 2 roof hatches.  
79 to 90 Passenger = 3 emergency exits per side and 2 roof hatches.

- 2002 Operation instructions shall be located at or near the emergency exit release handle, both inside and outside of the bus. Outside may consist of a black arrow pointing in direction of handle travel. No other lettering shall obstruct or interfere with the placement of operation instructions mounted on the exterior of the emergency exit door.
- 2002 Side emergency exit window, when installed, may be vertically hinged on the forward side of the window. No side emergency exit window will be located above a stop arm. Emergency exit doors, side emergency exit windows and emergency exit roof hatches shall be strategically located for optimal egress during an emergency evacuation of the bus.
- 2002 Emergency exit side windows shall include an alarm system that includes an audible warning device in the driver's compartment.
- 2002 When manually operated dual doors are provided, the left or rear door shall have at least a one-point fastening device to the header. The forward-mounted door shall have at least three one-point fastening devices, at the header, floor line and into the other door.

#### **EMERGENCY EQUIPMENT:**

- 1992 Each bus shall be equipped with a removable and moisture proof body fluid clean-up kit. It shall be properly mounted and labeled.
- 1992 Emergency triangles shall be mounted in an accessible place in the driver's compartment. Mounting location in type A vehicles is optional.
- 1997 Any enclosed compartment containing emergency equipment must be labeled in not less than one inch letters, stating the piece(s) of equipment contained therein.
- 2002 First Aid and Body Fluids kits shall be of a removable, moisture-proof and dust-proof type sealed with a breakable type seal and mounted in the driver's compartment in a location that is physically accessible to all drivers.
- 2002 Ignitable flares and axes are not allowed on school buses. However, the driver's area forward of the foremost padded barriers shall permit the mounting of required safety and vehicle operation equipment.

#### **ENGINES:**

- 1997 Glow plug indicators are required on all buses using glow plugs.

- 1997 Accelerator pedals shall not require more than 16 lbs. of force to operate them through any part of their travel.

#### **EXHAUST SYSTEM:**

- 1997 Exhaust systems must exit to the left side of the bus. Type A and B may be manufacturer's standard. (These are Body Standards and do not match the chassis standards which do not require the exhaust to come out on the left side of the engine.) They may exit either side or back.
- 1997 Tail pipes may extend up to 2" beyond the perimeter of the bus or the bumper.
- 2002 The tailpipe may be flush with, but not extend out more than two inches beyond, the perimeter of the body for side-exit pipe or the bumper for rear-exit pipe.
- 2002 The tailpipe shall exit to the left or right of the emergency exit door in the rear of vehicle or to the left side of the bus in front or behind the rear drive axle.

#### **FIRE EXTINGUISHER:**

- 1982 All buses shall be equipped with a 2A-10BC (5lb.) fire extinguisher.

#### **FLOORS:**

- 1992 A screw down plate is required to access the fuel tank sending unit.
- 2002 Low profile heaters are not allowed within the clear floor area required to accommodate a wheelchair.
- 2002 On types B, C and D buses, a flush-mounted, screw-down plate that is secured and sealed shall be provided to access the fuel tank sending unit.

#### **GAUGES:**

- 1972 Ammeter and voltmeter are required.
- 1982 A voltmeter OR an ammeter is required.
- 1997 A tachometer is required on all buses with remotely mounted engines.
- 2002 A tachometer is required for all engines.

#### **HANDRAILS:**

- 2002 The entrance door handrail shall assist passengers during entry or exit, and be designed to prevent entanglement, as evidenced by the passage of the NHTSA

string and nut test, as defined in National School Transportation Specifications & Procedures School Bus Inspection.

#### **HEATERS:**

- 1982 A shut-off valve in both the pressure and return lines shall be located in the engine compartment.
- 1982 Bus shall be equipped with a water control valve located for the convenient operation of the driver.
- 1987 Bus shall be equipped with a water flow-regulating valve installed in the pressure line for convenient operation by the driver while seated.
- 2002 Accessible bleeder valves shall be labeled and installed in an appropriate place in the return lines of body company-installed heaters to remove air from the heater lines.

#### **HORNS:**

- 2002 Bus shall be equipped with two horns of standard make with each horn capable of producing a complex sound in bands of audio frequencies between 250 and 2,000 cycles per second and tested in accordance with SAE J-377.

#### **IDENTIFICATION:**

- 1982 Bus must be numbered with black numbers 6" high in four separate places.
- 1997 Bus numbers are required as follows: one on each side and one on front and rear.
- 2002 Contractor-owned school buses under contract with a school district must also comply with the same identification standards as district-owned buses and shall be identified by either the contractor or district name, as decided by the district.
- 2002 Each district-owned or contracted school bus will be separately identified with its own number in two (2) places on each side of the bus in the logo panel/belt line using six inch (6") high black numbers. Numbers on the passenger side shall be as close to the first and last passenger windows as possible and on the driver's side as close to the stop arm and last passenger window as possible.
- 2002 Unauthorized entry placards shall be displayed in the most visible location when observed by persons approaching the vehicle with the door in the open position.

#### **INTERIOR:**

- 1982 The drivers area forward of the foremost padded barriers will permit the mounting of required safety and vehicle operating equipment.
- 1997 Overhead storage compartments are allowed but they have to be like those in an aircraft.
- 1997 Trash cans shall be of fire resistant polyethylene or equivalent material and no greater than 14 quart and secured by a holding device that prevents movement but allows easy removal.
- 2002 All equipment necessary for the operation of the vehicle shall be properly secured in such a way as to prevent the entanglement of clothing, backpack straps, drawstrings, etc.
- 2002 Where requested or used, the trash container shall be secured by a holding device that is designed to prevent movement and to allow easy removal and replacement; and it shall be installed in an accessible location in the driver's compartment, not obstructing passenger use of the service door or the entrance grab handle, and in such a way as to prevent the entanglement of clothing, backpack straps, drawstrings, etc.

## **LIGHTS & LAMPS**

- 1972 All buses shall be equipped with 7" stoplights and all buses except type A shall be equipped with 7" turn signal lights.
- 1985 All stop arm blades will be equipped with lights.
- 1991 All stepwell lights shall be illuminated by a service door operated switch, to illuminate only when headlights and clearance lights are on and service door opened.
- 1993 All new type B, C and D buses ordered after June 30, 1993, shall be equipped with two amber 7" turn signal lamps located on the front body section of the bus. All new type A, B, C and D buses shall be equipped with two amber 7" inch turn signal lamps located on the rear body section of the bus.
- 1993 All new buses ordered after June 30, 1993, shall be equipped with a maximum of four red combination brake/tail lamps. They shall consist of two 7" lamps mounted to the inside of the turn signal lamps and two 4" lamps mounted at a lower location on the rear body section of the bus.
- 1997 Buses shall be equipped with side mounted amber turn signals. One behind the stop arm and one behind the entrance door.

- 1997 Body mounted front turn signals are no longer required but amber rear mounted turn signal lights are still required and front chassis mounted turn signals are also required.
- 1997 Headlight system must be wired separately from the body-controlled solenoid.
- 2002 An additional exterior mounted light shall be mounted next to the service door to adequately illuminate the outside approach to the door. It shall be actuated simultaneously with the stepwell light.
- 2002 Air and electrically operated doors may be equipped with an over-ride switch that will allow the red lamps to be energized without opening the entrance door, when the alternately flashing signal lamp system is in the operational mode.
- 2002 Visors or hoods over the 8-way lights shall be provided and shall be black in color, with a minimum depth of four inches.
- 2002 Bus body shall be equipped with amber front and rear turn signal lamps that are at least seven inches in diameter.
- 2002 Buses shall be equipped with amber side-mounted turn signal lamps. One turn signal lamp on the left side shall be mounted rearward of the stop signal arm and one turn signal lamp on the right side shall be mounted rearward of the service door. Both front side-mounted turn signal lamps shall be mounted forward of the bus centerline. An additional side mounted turn signal lamp may be mounted on each side of the bus to the rear of the bus centerline.
- 2002 Optionally, the strobe light may be mounted on the roof in the area directly over the restraining barrier on the driver's side, may be wired to activate with the amber alternately flashing signal lamps, continuing through the full loading or unloading cycle, and may be equipped with a override switch to allow activation of the strobe at any time for use in inclement weather or emergency situations.

#### **MIRRORS:**

- 1972 One crossover mirror, right or left, is required on each bus.
- 1982 One crossover mirror is required on each side of the bus.
- 1987 Four crossover mirrors are required on all A, B, and C type buses. Three are required on all type D buses.
- 1997 All buses shall be equipped with exterior mirrors meeting the requirements of FMVSS 111.

#### **OVERALL LENGTH & WIDTH:**



- 2002 Buses shall not exceed a length of 45 feet or a width of 102 inches, excluding accessories.

### **REFLECTIVE MATERIAL:**

- 1993 Reflective material may be used on bumpers, sides of bus, rear of bus and on the School Bus signs but it must meet FHWA FP-85 values and be automotive engineering grade or better.
- 1997 Is required around perimeter of rear and both sides of the bus. Around each emergency exit and the words school bus on the ends of the bus must be reflective and meet FMVSS 217.

### **RUB RAILS:**

- 1972 A minimum of two rub rails is required on all buses. The top rail to be placed approximately at seat level and extending all the way around to the rear door. The second rail shall be located approximately at the floor line.
- 1997 There shall be a rub rail or equivalent bracing located at the bottom edge of the body side skirts.

### **SEATS & BARRIERS**

- 1991 All passenger seats on type B, C and D buses shall be a minimum of 24 inches high and a minimum 20 inches from the seating reference point.
- 1991 All passenger seats and barriers shall be covered with fire block material.
- 1991 All driver's seats shall be of the high backed style.
- 1997 All drivers' seats supplied by the body manufacturer shall be a high back suspension type seat.
- 1997 Flip seats are allowed next to side emergency doors. But when they are in the up position they cannot obstruct the 12" minimum aisle to any side emergency exit.
- 2002 All restraining barriers and passenger seats may be constructed with non-reimbursable fire block materials.
- 2002 The use of a "flip seat" adjacent to any side emergency door is prohibited.
- 2002 When installed, all passenger seats designed to accommodate a child or infant carrier seat shall comply with FMVSS No. 225. They shall be in compliance with

NHTSA's "Guideline for the Safe Transportation of Pre-school Age Children in School Buses".

- 2002 If installed, a driver's suspension seat must be one of three types: air, hydraulic or spring. A pedestal-type seat with a center spring is not considered a suspension type seat.

#### **SEAT BELTS:**

- 1991 All driver's seat belts will also include a shoulder harness assembly.
- 2002 All buses shall be equipped with a seat belt cutting device secured in a location that is easily accessible to the driver while properly belted.

#### **SHOCK ABSORBERS:**

- 2002 Shock absorbers shall be of sufficient length to allow for adequate travel in all situations without damage to the shock absorber or mounts.

#### **SOUND SYSTEMS:**

- 2002 No internal speakers, other than the driver's communication systems, may be installed within four feet of the driver's seat back in its rearmost upright position.

#### **STEERING:**

- 1982 Power steering is required on all buses.

#### **STEPS:**

- 2002 On chassis modifications which may result in increased ground clearance such as four wheel drive) and auxiliary step shall be provided to compensate for the increase in ground-to-first-step clearance. The auxiliary step is not required to be enclosed.
- 2002 OEM steps shall be enclosed to prevent accumulation of ice and snow.
- 2002 OEM, retrofit, or after-market steps shall not protrude beyond the side bodyline, except during the loading or unloading of passengers.

#### **TIRES & RIMS:**

- 1995 The use of multi-piece rims and tube type tires is no longer allowed on buses ordered after December 31, 1995.

**TOWING DEVICES:**

- 2002 A towing device (hooks, eyes, bar) shall be furnished on all school bus types and attached so as not to project beyond the front or rear bumpers.

**VENTILATION:**

- 1982 All buses shall be equipped with suitable controlled ventilation and a static non-closable exhaust vent located in the roof.

**WINDSHIELD WIPER SYSTEMS:**

- 1997 Intermittent wipers are required on all buses.

**WHEELCHAIR LIFTS:**

- 1985 All lift equipped buses shall have a red flashing light located on the instrument panel that will be activated whenever the lift doors are open and the ignition is in the on position.
- 1985 All lift buses must have a switch installed so that the lifting mechanism will not operate when the lift platform door is closed.
- 1991 All lift platforms will be equipped with at least one handrail for security.
- 1991 All wheelchair positions shall be forward facing.
- 1991 All wheelchair tie downs must incorporate a five point system.
- 1997 Entrance door, steps shall be the full width of the stepwell, excluding the thickness of the door in the open position.
- 1997 A device shall be installed for the storage of the securement and restraint system (belts).
- 1997 At no time shall a chair securement system be placed next to a lift or emergency exit. (Cannot block either.)
- 1997 Special service entrance and door shall not obstruct the regular service entrance.
- 1997 Door shall be equipped with a device that will actuate an audible or flashing signal located in the driver's compartment when door is not securely closed and ignition is in the on position.
- 1997 Manufacturer's will provide telephone numbers, seating schematics and equipment identification with each bus.

- 1997 Handrails will be provided on both sides of the lift platform.
- 1997 Lift controls should be interlocked with the vehicle brakes, transmission, or door or shall provide other appropriate mechanisms or systems to ensure the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks or systems are engaged.
- 2002 All school buses that are used to transport individuals with disabilities shall be equipped with a two-way electronic voice communication system other than CB radio.
- 2002 Lift controls may be interlocked with the vehicle brakes, transmission or door, or may provide other appropriate mechanisms or systems to ensure the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks or systems are engaged.
- 2002 Doorways in which lifts are installed shall have for use during lift operation a special light(s) providing a minimum of two foot-candles of illumination measured on the floor of the bus immediately adjacent to the lift and on the lift when deployed at ground level. Additional interior and/or exterior lights shall be provided to meet this requirement. These lights shall be separate from the vehicle dome lights and wired to be actuated whenever the lift door is open. (We interpret this as meaning an additional light shall be mounted on the exterior of the bus for this purpose.